AMENDMENT UNDER 37 C.F.R. § 1.111
SERIAL NO. 09/756,881
ATTORNEY DOCKET NO. Q62603

REMARKS

General remarks.

Claims 1-4, 6-8, 10-12, and 14-21 are now all the claims pending in the application.

Claims 5, 9, and 13 have been canceled. The dependency of some of the dependent claims has

been changed. New independent claim 21 has been added.

Applicant respectfully requests the examiner to withdraw the rejection under § 112,

second paragraph, in view of the self-explanatory claim amendments shown above.

Rejection under § 102.

The examiner rejected claims 1-4, 6, 7, 12, 14, 15, and 16 under 35 USC § 102 (b) over

Oda. Of these rejected claims, claims 1, 12, and 15 are independent.

Independent claim 1.

Independent claim 1 has been amended so as to include the following requirements:

> fixing signal output means for outputting a
> fixing signal to the drive means, instead of
> the record data, and the fixing signal
> selecting at least one group in the dot
> formation means which is not used for
> forming the dot in accordance with the
> record data;
>
> fixing means for fixing the selected group
> so as not to form the dot; and
>
> control means for transferring the record
> data to the group, except for the selected
> group, by the fixing means.

It is respectfully submitted that Oda does not meet the foregoing requirement.

In Oda, an operator selects a monochromatic or color mode on a print menu display on

the screen 3. This selection is analyzed in the main body of the computer 2. When color print

mode is selected, print driver 14 produces dot image data for four colors, whereas when

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monochromatic print mode is selected, print driver 14 produces dot image data for only one of the four colors. (Fig. 3, col. 5, line 64 to col. 6, line 11).

Also, print driver 14 transmits a mode indication command to the printer 7 before transmitting print data. (Fig. 3, col. 7, lines 10-30). In printer 7, controller 17 analyzes this mode indication command. That is, this mode indication command is transferred through the CPU 38 to address generator 41. (Fig. 6, col. 13, lines 2-12). This address generator 41 stores appropriate print data to buffer memory 18. Then this print data, along with two clock signals, are supplied to the print head drive portion 19. (Fig. 6, col. 13, lines 12-26; col. 10, lines 53-55).

It is respectfully submitted that the teachings of Oda therefore do not meet the requirements of independent claim 1, as now amended. Therefore, applicant respectfully submits that independent claim 1 and all of its dependent claims 2-4, 6-8, 10, 11, and 20 patentably distinguish over Oda, and therefore respectfully requests the examiner to withdraw this rejection.

Independent claim 12.

As now amended, independent claim 12 requires:

> outputting a fixing signal to the drive means, instead of the record data, the fixing signal selecting at least one group in the dot formation means which is not used for forming the dot in accordance with the record data;
>
> fixing the selected group so as not to form the dot; and
>
> transferring the record data to the group except for the selected group by the fixing signal.

These requirements are similar enough to those in claim 1 that the arguments in favor of the patentability of claim 1 apply with equal force here. For similar reasons, therefore, applicant respectfully requests the examiner to withdraw this rejection of independent claim 12 and its dependent claim 14.

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Independent claim 15.

Independent claim 15 has been amended so as to include the following requirements:

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fixing signal output means for outputting a
fixing signal to the drive means, instead of
the record data, and the fixing signal
selecting at least one group in the dot
formation means which is not used for
forming the dot in accordance with the
record data, and for transmitting the fixing
signal directly to the drive means
associated with a group in the dot formation
means, wherein the selected group is
predetermined in the mode fixing circuit.
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It is respectfully submitted that the foregoing requirement of independent claim 15 is similar enough to those mentioned, above, with respect to independent claim 1 so that the arguments in favor of the patentability of independent claim 1 apply by analogy here. Therefore, for analogous reasons, applicant respectfully submits that independent claim 15 (and also its dependent claims 16 and 17) patentably distinguishes over Oda.

Applicant therefore respectfully requests the examiner to withdraw this rejection of independent claim 15 and to find that the claim and its dependent claims patentably distinguish over Oda.

The rejections under 35 USC § 103(a).

Dependent claims 10 and 11.

The examiner rejected claims 10 and 11 under 35 USC § 103(a) as being unpatentable over Oda in view of Nakano. All of these rejected claims depend from independent claim 1.

It has already been demonstrated that Oda does not meet all of the requirements of independent claim 1, as now amended. It is respectfully submitted that Nakano does not compensate for these demonstrated deficiencies of Oda.

Nakano is relied upon only for its teaching of a PZT select circuit 109 and a shift register 240. Nakano teaches a PZT select circuit 109 for generating PZT select signals D_{01}-D_{64} for

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designating specific PZTs of the ink jet head in accordance with a print data signal DI sent from the control unit 115 (col. 7, lines 55 to 60).

Specifically, DI is serial data (SI), which enters the 64-bit shift register 240 which serially shifts the serial data SI using a timing signal CLK. Then, the shift register 240 outputs the SI data in 64 bits in parallel to the 64-bit latch circuit 241 which latches the SI data in 64-bits by a timing of the inverted latch signal. The latched 64-bits of SI data are gated by the gate circuit 242 using a timing of the inverted time signal STB. By enabling gates of the gate circuit 242, the 64 bits of SI data switch the state of transistor array 243 to an on-state, so that select signals among signals D_{01}-D_{64} can be outputted in accordance with the 64 bits of SI data. In this ways, any desired PZT can be selected from among 64 PZTs (col. 10, lines 45 to 60).

However, Nakano selects desired PZT by using 64 bits of SI data and does not function in the manner required by independent claim 1, let alone in the manner for the defined by dependent claims 10 and 11.

The person of ordinary skill would not have (and could not have) been led by the teachings of these two references, even taken together as a whole for what they would have meant to such a person, to achieve the subject matter of independent claim 1 (as now amended). Applicant therefore respectfully submits that the combined teachings of these two references do not render obvious the subject matter of either of dependent claims 10 or 11. Applicant therefore respectfully requests the examiner to withdraw this rejection of claims 10 and 11.

The rejection of claims 8, and 17-20.

The examiner rejected claims 8 and 17-20 under 35 USC § 103(a) as being unpatentable over Oda in view of Rezanka. Claims 8 and 20 depend from independent claim 1; claim 17 depends from independent claim 15; claim 18 is independent; claim 19 depends from claim 18.

It has already been demonstrated that Oda does not meet all of the requirements of the now-amended independent claims 1 or 15. Rezanka is relied upon solely for its teaching of using first black ink and second black ink during monochrome and color printing, and clearly does not compensate for the above identified deficiencies of Oda. Even taken together, as a whole, for what they would have meant to the person of ordinary skill, the combined teachings of Oda and

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Rezanka do not meet all of the requirements of these two independent claims. Applicant therefore respectfully submits that independent claims 1 and 15 patentably distinguish over the Oda-Rezanka combination, and that therefore dependent claims 8, 17, and 20 likewise patentably distinguish over this combination.

Applicant therefore respectfully requests the examiner to withdraw this rejection as to claims 8, 17, and 20.

Applicant now turns to independent claim 18. Claim 18 recites:

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driving  means  for  driving  the  respective
groups  in  the  dot  formation  means  and  for
determining  the  formation  of  the  dot  by
inputting  into  the  dot  formation  condition  a
mode fixing signal.
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The Examiner cites col. 5, line 64 to col. 6, line 11 and Fig. 13, elem. 14 and contends that a corresponding means outputs a signal that selects either monochromatic or color mode and that this signal is transmitted to the print head (see page 3 of the office action). However, the Examiner may be misinterpreting the teachings of the reference in this regard.

For example, in Oda, an operator selects a monochromatic or color mode on a print menu display on the screen 3. This selection is analyzed in the main body of the computer 2. When color print mode is selected, print driver 14 produces dot image data for four colors, whereas when monochromatic print mode is selected, print driver 14 produces dot image data for only one of the four colors. (Fig. 3, col. 5, line 64 to col. 6, line 11).

Also, print driver 14 transmits a mode indication command to the printer 7 before transmitting print data. (Fig. 3, col. 7, lines 10-30). In printer 7, controller 17 analyzes this mode indication command. That is this mode indication command is transferred through the CPU 38 to address generator 41. (Fig. 6, col. 13, lines 2-12). This address generator 41 stores appropriate print data to buffer memory 18. Then this print data, along with two clock signals, are supplied to the print head drive portion 19. (Fig. 6, col. 13, lines 12-26; col. 10, lines 53-55).

The Examiner alleges that driving means are taught in Oda, Fig. 5, element 19 (page 2 of the office action), whereas fixing signal output means are taught in Oda, Fig. 3, element 14. The

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Examiner further alleges that Oda teaches driving means 19 with a mode fixing means (see page 3 of the office action). Yet, in Oda, driving means 19 is supplied with the print data and two clocks, and it does not receive a mode-fixing signal. This is clearly shown in Fig. 6 as well as described in col. 10, lines 53-55. Instead, in col. 7, lines 54-59, Oda teaches an address generator 41, which is configured to receive a resolution indication signal and a mode indication signal from the CPU portion 38. The address generator sets buffer areas in buffer memory 18 based on the print mode.

Furthermore, the Examiner alleges that head drive portion 19 drives all the print heads 21(a)-21(d) when print data for multicolor image is supplied and one of the print heads when print data for monochromatic image is supplied (see col. 7, lines 52-59); therefore, head drive portion 19 has a fixing signal output means (see page 3 of the office action). However, Oda only teaches selection of the nozzles based on the record data/print data supplied to the drive head 19.

In fact, Oda's driving means 19 receive print data that is recorded data from buffer memory 18, and without making any further determinations (except for how many nozzles to utilize), driving means 19 prints this record data using dot formation means. Moreover, even assuming arguendo that the mode-fixing signal is a command transmitted to the CPU and the print controller 17, this command is still not transmitted to the driving means for further determinations. Even the determination of which nozzles should be used is based on the print data received by the driving means 19 from the buffer 18 and not by a mode-fixing signal. In short, Oda does not have fixing signal output means, which transmit a mode-fixing signal to the driving means.

Oda teaches that a determination of which nozzles to use is made based on the record data but fails to disclose a circuit or any other device for making the determinations based on record data.

Therefore, Oda does not meet the above-identified requirements of independent claim 18. As already pointed out, above, Rezanka does not contribute any teaching or suggestion that compensate for the deficiencies of Oda in this regard. Even taken as a whole, for what they would have meant to the person of ordinary skill, the combined teachings of these two references

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would not have led the person of ordinary skill to have achieved the recording apparatus as defined in independent claim 18, or its dependent claim 19. Applicant therefore respectfully requests the examiner to withdraw this rejection of claims 18 and 19.

New claim 21.

It is respectfully submitted that new claim 21 patentably distinguishes over all of the prior art in view of its requirements for:

> fixing signal output means for outputting a fixing signal to the drive means, instead of the record data, and the fixing signal selecting all the groups in the dot formation means in accordance with the record data so that the respective groups form the dot; and
>
> fixing means for fixing all the groups so as to form the dot.

It is respectfully submitted that the foregoing requirements of new claim 21 are not taught or suggested by any of the applied references, taken individually or in combination. Applicant therefore respectfully solicits of the Examiner the allowance of new claim 21.
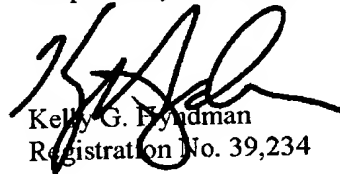
Conclusion and request for telephone interview.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

Kelly G. Hyndman
Registration No. 39,234

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: April 3, 2003

FAX RECEIVED

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